Supreme Court, U. S.
FILED
AUG 27 1976
MICHAEL RODAK, JR., CLERK

Supreme Court of the United States

October Term, 1976

No. 76-297

LEE A. TURZILLO and LEE TURZILLO CONTRACTING COMPANY,
Petitioners,

vs.

P. & Z. MERGENTIME,
Respondent.

APPENDIX TO PETITION FOR WRIT OF CERTIORARI TO UNITED STATES COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT

THOMAS V. KOYKKA
ARTER & HADDEN
1144 Union Commerce Building
Cleveland, Ohio 44115
216-696-1144

DONALD L. OTTO
DONNELLY, MAKY, RENNER & OTTO
Room 609
601 Rockwell Avenue
Cleveland, Ohio 44114
216-621-1113

JOHN C. ZIMBARDI
3351 Brecksville Road
Richfield, Ohio 44286
216-659-3141
Attorneys for Petitioners

August 27, 1976

THE GATES LEGAL PUBLISHING CO., CLEVELAND, OHIO—TEL. (216) 621-5647

TABLE OF CONTENTS

Opinion of Court of Appeals for the District of Columbia Circuit A1

Opinion of Court of Appeals on Rehearing A19

Judgment in Court of Appeals A22

Order of Court of Appeals on Rehearing A24

Opinion of the District Court A25

Judgment in the District Court A41

OPINION OF COURT OF APPEALS

532 F.2d 1393

UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

No. 75-1079 and No. 75-1080

LEE A. TURZILLO, *et al.*,
Appellees,

v.

P. & Z. MERGENTIME, *Appellant.*

APPEALS FROM THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA
(D.C. CIVIL 792-72)

(Argued January 19, 1976)

(Decided April 8, 1976)

Charles E. Townsend, Jr., San Francisco, Cal., of the bar of the Supreme Court of California pro hac vice by special leave of Court, with whom Edward F. McKie, Jr., Washington, D. C., was on the brief for appellant in No. 75-1079 and appellee in No. 75-1080.

Donald L. Otto, Cleveland, Ohio, with whom Donald D. Jeffery, Washington, D. C., was on the brief for appellees in No. 75-1079 and appellants in No. 75-1080.

Before McGOWAN and LEVENTHAL, Circuit Judges, and ALBERT V. BRYAN, JR.,* United States District Judge for the Eastern District of Virginia.

---

*Sitting by designation pursuant to 28 U.S.C. § 292(d).

Opinion for the Court filed by Circuit Judge LEVENTHAL.

LEVENTHAL, *Circuit Judge*:

This is an appeal from an interlocutory judgment of the District Court holding two patents issued to plaintiff-appellee Lee A. Turzillo valid, and finding infringement by defendant-appellant P & Z Mergentime[1] with respect to the later issued patent. One is United States Patent No. 3,363,422 ('422 Patent), issued January 16, 1968, for a method and apparatus for anchoring a tie-down bar in an earth situs. The other is United States Patent No. 3,464,216 (the '216 Patent), issued September 2, 1969, for a method and means for forming cast-in-place reinforced concrete piles. On April 24, 1972, Lee A. Turzillo and Lee Turzillo Contracting Co., the licensee of the patents, filed a complaint charging P & Z Mergentime with infringement of claim 1 of the '422 patent and claims 1-6 of the '216 patent arising from the defendant's installation of tie backs at WMATA's operations center at 5th and G Streets, N.W., the National Gallery of Art (NGA), and the Union Station branch of the new District of Columbia subway system. Plaintiffs alleged that the '422 patent was infringed by defendant's continuous auger method, used principally at the operations center and NGA, and that the '216 patent was infringed by defendant's use of the sectional auger method, employed at Union Station.

On October 29, 1974, the trial court, sitting without a jury, issued a Memorandum Opinion, followed by a Judgment, filed November 25, 1974, declaring '422 valid as to claim 1 and '216 valid as to claims 1-6; and ruling that defendant had not infringed '422 but had infringed claims

1. A joint venture company composed of P & Z Company, Inc., a California corporation, and Mergentime Corporation, a Delaware corporation.

of 1-6 of '216 through its sectional auger method. The trial court enjoined further infringement, and referred the case to an auditor to determine damages.

I. '422 PATENT

The District Court opinion is largely devoted to a discussion of the prior art and the validity of the '422 patent. We have doubts about the ruling that the '422 patent is valid but we simply vacate that ruling rather than resolve the issue of validity in this litigation since, in any event, we are satisfied that the findings by the judge concerning noninfringement were not clearly erroneous.

A. *The Patent*

We begin by repeating, almost verbatim, the District Court's description of the patent—compiled with an acknowledgment that we doubt we could have understood it without the aid of the diagrams in the patents and briefs of counsel.

The '422 patent relates to a method and apparatus for anchoring a tie-down bar in an earth situs using a hollow-shafted auger or drill. The central passage of the drill is closed at its inner end by a driving bit, which is a unit separate from the drill. The driving bit consists of a cutting member, sometimes a flat, pointed piece of steel which assists in forming the hole; a base plate or closure plate which covers the lower end of the drill; and a cylinder portion which is attached to the back side of the plate. The cylinder portion may be square or round and may or may not be threaded. Its function is to accept a steel tendon or reinforcing bar. The bar, whose length will be the entire length of the hole to be formed, is welded or threaded to the base plate at its center and is inserted into the central passageway of the auger before drilling. Af-

ter the bit with its reinforcing bar is loaded onto the drill, the bit is releasably connected to the shaft of the drill so that there is no relative motion between the drill shaft and the bit. The bit and the drill thus act as a unit in forming the hole. In the preferred form of plaintiff's invention, the driving bit is releasably retained at the inner end by a pin which is inserted through the reinforcing bar at the top of the drill and which spans the outer diameter of the drill so that it acts, simultaneously, as a drive to rotate the bit and a means to lock the driving bit to the inner end of the drill. In the field, however, Turzillo used other, equivalent means, such as wood shims, cloth, or a ball-spring detent device at the lower end of the drill to wedge the driving bit into the inner diameter of the shaft. Also commonly used by plaintiff to accomplish an equivalent releasable connection was ordinary bailing wire wrapped about the tip of the driving bit and an outer portion of the drill shaft. After drilling, the bit and tie-down bar are released from the drill. The bit then acts as an anchor for the bar while the drill is progressively removed from the hole and fluid cement is fed through the central passageway of the drill to form a concrete column.

The result of this method is a column of concrete surrounding a steel tendon which has been accurately centered within the column. Such tie backs are not the equivalent of the familiar concrete columns into which reinforcing bars have been inserted. By using steel of varying tensile strengths and by accurately centering the tendons, tie backs or tie-downs may be constructed which are used, among other uses, to hold back earth walls in excavation sites thus relieving the site of a great deal of clutter and allowing actual construction to proceed much faster, to hold buildings firmly down, or to keep buildings from sinking.

B. *District Court's Rulings as to Prior Art*

The District Court examined the leading examples of prior art cited by defendant.[2] It noted that with the exception of Phares, the patent examiner had all this art before him, and concluded that it saw no reason to overturn his decision to issue a patent on claim 1 of '422.

The District Court's judgment as to these matters is fairly indicated by its discussion of the prior Patterson patent and Turzillo's improvement thereon, as follows:

> Patent No. 2,729,067 to Patterson in 1956 showed the use of a drill to define a cavity in the earth and, in one embodiment, the use of a hollow shafted auger through which cement grout is passed is proposed. In this embodiment, grout pressure is used to drive the driving bit from the auger shaft.
>
> Thus, as early as 1956, those in the trade had all the elements available to them to form tension piles in the manner of Turzillo '422. Yet, for one reason or another tension piles could not be formed efficiently using these known methods. The testimony of Mr.

---

2. (1) U.S. Patent No. 1,805,265 to Taussig for a screw conveyor pile, published May 12, 1931, assigned to Raymond Concrete Pile Company of New York;

(2) U.S. Patent No. 2,146,645 to Newman for foundation construction, published February 7, 1939;

(3) U.S. Patent No. 2,729,067 to Patterson for a method for forming piles, published January 3, 1956, assigned to Intrusion Prepakt, Inc.;

(4) German printed application No. 1,104,905 to Bauer for a traction anchor for anchoring structures in the ground, published April 13, 1961;

(5) U.S. Patent No. 3,200,599 to Phares for apparatus for forming piles, published August 17, 1965, assigned to Raymond International, Inc.;

(6) U.S. Patent No. 3,228,200 to Dufresne for a method of forming concrete piles, published January 11, 1966.

Turzillo and Mr. Liver, an officer of the Turzillo Company, showed that in the mid-sixties Intrusion Prepakt was still using the Patterson method of first forming the pile and then manually inserting the steel tendon into the formed pile. However, this method could not produce the desired results and in at least one tie back job done for the Gulf Power Company in Louisiana Intrusion Prepakt was replaced by Turzillo's company. Intrusion Prepakt now holds licenses under both the '422 and the '216 patents. Indeed, defendant's first attempt to construct tie backs under their [sic] contracts in Washington was to use the even older percussion method of driving pipes into the ground and manually inserting the reinforcing bar after drilling. This method, however, resulted in too many failures. Defendants then switched to the methods now accused of infringement and thereafter had no test failures after the pile was formed.

(J.A. 11-12).

As to such findings we see no reason for appellate intervention. A different question arises, however, in connection with the Phares patent. It was not called to the attention of the patent examiner. It was published August 17, 1965, after the filing of Turzillo's application on March 19, 1965, but well before the issuance of the '422 patent on January 16, 1968. The District Court rejected defendant's contention that the '422 patent should be held invalid because of the applicant's failure to cite Phares to the patent office during prosecution of the application. It stated:

> Defendant cites *Beckman Instruments, Inc. v. Chemtronics, Inc.*, 428 F.2d 555 (5th Cir. 1970); *Monsanto Co. v. Rohn & Haas, Inc.*, 456 F.2d 592 (3d Cir. 1972); *Carter-Wallace v. Davis-Edwards Corp.*, 443

> F.2d 867 (2d Cir. 1971); and *Norton v. Curtiss*, 433 F.2d 779, 57 CCPA 1384 (1970), in support of its position. None of these cases stand for the proposition that the mere failure to cite a reference, without more, is grounds for invalidating a patent. To be sure an applicant has a high duty to inform the Patent Office of all pertinent facts affecting the prosecution of his application. But the examiner in his initial search, searched the subclass in which Phares was classified and cited the Dufresne and Newman references from that subclass as prior art.[3] At this point, as is discussed below, the examiner had all of the most pertinent art before him. Assuming Turzillo actually knew of the Phares at this time, he could as well have been of the opinion that Phares was not pertinent to his invention. Defendant has made no showing, and has not attempted to show, the wilful nature of plaintiffs' failure or a recognition or admission on the plaintiffs' part that Phares should have been brought to the examiner's attention. Moreover, Phares is not a 102 reference,[4] as was the case in *Beckman*, and does not completely negate the '422 claims. On the basis of the record before the court, the court rejects defendant's contention. However, to the extent that the presumption of validity is affected by the possibility that the examiner did not have Phares before him, the court will more closely examine '422 against the prior art including Phares.

(J.A. 9-10).

---

3. The examiner did cite Phares during the prosecution of the related '216 application. However, Phares was cited there merely in passing as an exemplar of pertinent art and never expressly relied upon during the prosecution by the examiner.

4. 35 U.S.C. 102.

As appears from the foregoing, the District Court indicated that it would closely examine '422 in view of the failure to disclose the Phares patent. However, when it came to examining the significance of Phares, its analysis consisted of the following:

> Finally, the Phares device, as disclosed in Figures 22-24 of the specification is an attempt to combine all the known elements to form a tension pile with steel tendons centrally located within the pile. However, the Phares device is significantly more complex than that of Turzillo, as a comparison of the disclosure of Turzillo with that of Phares, Figures 22-24 and accompanying text, will illustrate.
>
> The examiner had before him all the art cited above with the exception of Phares and in the face of these references issued claim one of '422. The court sees no reason to overturn his decision. The installation of tension pile or tie backs is a relatively new field. If a new combination and arrangement of known elements produces a new and beneficial result, never attained before, it is evidence of invention. *Maschinenfabrik Rieter A.G. v. Greenwood Mills*, 340 F.Supp. 1103 (D.S.C.1971). None of the cited references completely anticipates plaintiffs' claimed invention. In determining obviousness under 35 U.S.C. § 103 hindsight reconstruction of the prior art after the invention's commercial acceptance is not the applicable standard. *Id.; Simplicity Mfg. Co. v. Quick Mfg. Co.*, 355 F.2d 1012 (6th Cir. 1966). The development of the prior art in this case and the responses of those laboring in the field to make the same invention, as illustrated by the patent to Phares, a recognized leader in the field, indicate that Turzillo's method and device eliminated a technological block in the practical implementation of the prior art. This itself is strongly supportive of the lack of obviousness.

> With respect to the Phares patent and the validity of claim 1 in view of its disclosure, the court believes claim 1 of '422 to be patently distinct from Phares. Phares does not show a driving bit which *closes* the inner end of the hollow shaft. The Phares bit is held onto the inner end of the auger shaft but the closure plate, element no. 145 actually *closes* the inner end not the driving bit. In addition, Phares does not show releasing the driving bit and the steel tendon attached thereto in substantially centered position within the hole. Defendant failed to show how these distinctions are but obvious improvements over Phares. Its one technical witness had no experience with tie backs before joining defendant's company in Washington. In addition, the testimony of one of plaintiff's witnesses, Mr. Marshall, indicates that the experimental prototype for the Figure 22 embodiment of Phares was unworkable. It is also unrefuted in the record that the Phares device has never been successfully used commercially in the United States. It appears to the court that Phares is no better than the art considered and rejected by the Patent Office and, therefore, would not have changed the Examiner's decision with respect to claim 1 of '422.
>
> Since a patent is presumed to be valid, 35 U.S.C. § 282, and since the defendant failed in its burden of establishing invalidity, the court holds that claim 1 of '422 is valid.

(J.A. 12-14).

C. *Problems Arising out of Phares Patent*

An appellate court is diffident in injecting itself into issues that turn on perception of the facts. But we must voice our concern over the way in which the District Judge handled the matter of the Phares patent. We are not particularly troubled by his mistake in saying that Phares does not show release of the driving bit in substantially centered position. Plaintiffs' brief posits that this was a slip of the pen and that the trial court said "driving bit" when he meant to say "valve plate." More importantly, the District Court has not clearly grappled with the significance of the disclosure in Phares as anticipating at least major elements of Turzillo.

Certainly Phares resembles Turzillo in presenting (a) a hollow auger, that is (b) closed by a driving bit and valve plate while the drilling is under way (to prevent the earth from coming back through the auger), and includes (c) a central reinforcing rod.

There are distinctions between the Phares patent and Turzillo's. Phares proposes three rods, all within the auger; Turzillo, one rod. More important, Phares was so constructed that the valve plate could be withdrawn, and not left in the hole. While the matter is not entirely clear from the Phares patent, the withdrawal of the valve plate is presumably related to the use by Phares of a pressure sensing system to measure the pressure of the cement grout in the lower region of the drill so that the rate of withdrawal of the drill may be correlated with the rate of flow of the grout. Phares Patent, columns 15-16 (J.A. 394). There is little doubt that, as the trial judge found, Phares is more complex than Turzillo. It tried to do more things. As the trial judge noted, Turzillo showed distinc-

tions from Phares,[5] but the judge did not articulate whether, and in what respect, those distinctions were material. Nor do we discern wherein he grappled with the question of whether, if one takes the method disclosed by Phares' patent as a beginning, any differences by Turzillo —accepting them as simplifications and advances—were obvious vel non. Since the Phares patent was not before the examiner, this is a matter which should have been specifically explored by the judge.

We are aware that the District Judge said that because Phares was not before the examiner he "will more closely examine '422 against the prior art including Phares." However, the examination actually undertaken was cursory. And the court's concluding paragraph restates the statutory presumption of validity and finds '422 valid "since the defendant failed in its burden of establishing invalidity" (J.A. 14). We discern overall a continuing presumption accorded to the patent which was error insofar as it applied to Phares. The statutory presumption of validity does not apply to prior art not cited to the Patent Office,[6] and even one prior art reference not cited to the examiner overcomes the presumption.[7]

---

5. At oral argument in this court, plaintiffs stressed that Phares' valve plate is a separate element from the drill bit, and held in place by pins and posts, whereas Turzillo shows the valve plate welded to the bit; and that Phares' drill bit does not perform the valving function, whereas Turzillo shows the bit to have a dual function of both drilling the hole and providing a closure (to prevent the dirt from coming up the hollow shaft of the auger).

6. *See, e. g., AR Inc. v. Electro Voice, Inc.*, 311 F.2d 508, 512-13 (7th Cir. 1962); *Hobbs v. Wisconsin Power & Light Co.*, 250 F.2d 100, 105 (7th Cir. 1957), *cert. denied*, 356 U.S. 932, 78 S.Ct. 774, 2 L.Ed.2d 762 (1958); *Royal Patent Corp. v. Monarch Tool & Mfg. Co.*, 203 F.2d 299, 300 (6th Cir. 1953).

7. *See, e. g., Simmons Co. v. Hill-Rom Co.*, 352 F.2d 886, 888 (7th Cir. 1965).

D. *Issue of Non-disclosure of Phares Patent*

On the issue of non-disclosure of the Phares patent to the examiner, the judge put it that assuming Turzillo knew of Phares "he could [have] been of the opinion that Phares was not pertinent to his invention." The trial judge also notes that Phares "does not completely negate the '422 claims."

Obviously, duty to disclose to the patent office arises for matters that are relevant even though the applicant feels they do not establish anticipation. Indeed any disclosure would be routinely coupled with an explanation as to why it does not constitute anticipation. The duty of disclosure to the patent office is enhanced by the consequence that issuance of a patent by the patent office is accorded a presumption of validity, even though the proceeding before the patent office is not adversary and is dependent upon examination by an official who may not equal in resources those who are in the field commercially, and who does not have the extra spark of an economic incentive to avoid the tribute or other restraint that may be exacted by a patentee.[8] Thus, the applicant for a patent owes "the highest degree of candor and good faith" to the Patent Office, *Kingsland v. Dorsey*, 338 U.S. 318, 319, 70 S.Ct. 123, 124,

8. The ex parte prosecution and examination of a patent application must not be considered as an adversary proceeding and should not be limited to the standards required in inter partes proceedings. With the seemingly ever-increasing number of applications before it, the Patent Office has a tremendous burden. While being a fact-finding as well as an adjudicatory agency, it is necessarily limited in the time permitted to ascertain the facts necessary to adjudge the patentable merits of each application. In addition, it has no testing facilities of its own. Clearly, it must rely on applicants for many of the facts upon which its decisions are based. The highest standards of honesty and candor on the part of applicants in presenting such facts to the office are thus necessary elements in a working patent system.

Norton v. Curtiss, 433 F.2d 779, 793-94, 57 CCPA 1384 (1970).

94 L.Ed. 123, 126 (1949), "an uncompromising duty to report to [the Patent Office] all facts concerning possible fraud or inequitableness underlying the applications in issue," *Precision Instrument Mfg. Co. v. Automotive Maintenance Machinery Co.*, 324 U.S. 806, 818, 65 S.Ct. 993, 999, 89 L.Ed. 1381, 1388 (1945).

Plaintiffs' counsel insists that there is no showing that Turzillo knew of Phares. He concedes that there is a showing that Turzillo's patent counsel was advised of the Phares patent. *See* J.A. 284. But he claims that this was not enough to constitute evidence that Turzillo's patent counsel knew of the significance of the Phares patent. Appellant's counsel replies that it is manifest that Turzillo's patent counsel, prosecuting an application described as a "method and apparatus for anchoring a tie-down bar in an earth situs," would have been aware of at least the potential importance of the issuance of Phares patent, described as "method for forming piles in situ."

We are aware of the considerable body of authority holding that mere negligent omission or misstatement before the Patent Office in the absence of a showing of intentional fraud or willfulness does not amount to the "unclean hands" which would bar enforcement of an otherwise valid patent,[9] although there are indications that a patent applicant may breach his affirmative duty of disclosure by negligence so extreme as to be described as

9. *See, e. g., Walker Process Equipment, Inc. v. Food Machinery & Chemical Corp.*, 382 U.S. 172, 177, 86 S.Ct. 347, 350, 15 L.Ed.2d 247, 251 (1965) (willful misrepresentation required to strip patentee of its exemption from the antitrust laws); *Bendix Corp. v. Balax, Inc.*, 421 F.2d 809, 819 (7th Cir.), *cert. denied*, 399 U.S. 911, 90 S.Ct. 2203, 26 L.Ed.2d 562 (1970) (same); *Tractor Supply Co. v. International Harvester Co.*, 155 U.S.P.Q. 420, 433 (N.D.Ill. 1967) (innocent misrepresentation without proof of intention or willfulness does not work forfeiture of patentee's rights).

recklessness or gross negligence but falling short of deliberate intent to deceive the examiner.[10] However, we are not required at this juncture to formulate what standard for non-disclosure of pertinent prior art bars enforcement of an otherwise valid patent. Even assuming the stricter willfulness standard obtains, we are not satisfied with the District Court's consideration. The District Judge assumed, for purpose of discussion, that Turzillo knew of Phares. But his approach was permeated by his cursory dismissal of the pertinency of Phares to Turzillo's claim in '422. And so there was no development of a complete record on how it came about that Phares was not brought to the attention of the examiner.

E. *Appellate Disposition*

In the foregoing context, this court concludes it will vacate that part of the trial judge's decree which declares that the Turzillo patent '422 is valid. We are not holding the '422 patent invalid. But the problems we have identified as to the Phares patent—of anticipation of Turzillo, and of Turzillo's failure to disclose—are sufficiently troubling that we would not wish to affirm the declaration of

10. *See Norton v. Curtiss*, 433 F.2d 779, 796, 57 CCPA 1384 (1970) ("Where public policy demands a complete and accurate disclosure it may suffice to show nothing more than the misrepresentations were made in an atmosphere of gross negligence as to their truth."); *cf. Monsanto Co. v. Rohm & Haas Co.*, 456 F.2d 592, 599-600 (3d Cir.), *cert. denied*, 407 U.S. 934, 92 S.Ct. 2463, 32 L.Ed.2d 817 (1972) (failure to disclose inconsistent representations made in prior applications "amounted to misrepresentation transgressing equitable standards of conduct owed the public"); *Xerox Corp. v. Dennison Mfg. Co.*, 322 F.Supp. 963, 968-69 (S.D.N.Y. 1971) ("recklessness indicating a disregard for [patentee's] duty of frankness" may bar enforcement of patent); *Scott Paper Co. v. Fort Howard Paper Co.*, 432 F.2d 1198, 1204-05 (7th Cir. 1970), *cert. denied*, 401 U.S. 913, 91 S.Ct. 882, 27 L.Ed.2d 812 (1971) (deliberate misrepresentation required except possibly where non-disclosed prior art is almost identical with the patentee's invention).

validity on this record. Instead we leave that question open, as we may properly do in view of our affirmance of the judgment that the defendant has not infringed '422 (even assuming validity). The issues concerning infringement are more factual and straightforward than those concerning validity, and we do not see any error in the trial court's handling of this matter.[11]

II. '216 PATENT

Having discussed the '422 patent and the prior art at some length, the trial judge disposed of the issue of validity of the '216 patent in somewhat summary fashion, finding it an improvement over the '422 patent and valid in light of his earlier discussion of the prior art. In the '216 patent, the claims do not contemplate a rod that is in the auger shaft while drilling takes place. Instead the rod is inserted after drilling is concluded. In the first instance, its function is to drive off by ramming force the bit from the inner end of the shaft, which permits the auger to be withdrawn (without the bit) and cement to be introduced

11. The trial judge found that in actual operation defendant's drill bit was not attached to the auger shaft, that defendant was satisfied with the loosely fitting bit to close the inner end of the shaft, which hopefully would fall off after drilling was complete, and that during drilling the bit was to be held onto the auger pin by downcrowding the bit against the shaft. Plaintiffs urge that the fact that defendant used bailing wire to keep bit and shaft together provided the "releasable connection" called for by the claim. The court found that the defendant used the wire not to form such a connection but rather to hold the two elements together *before* drilling, and the wire was expected to break off immediately after drilling commenced.

Plaintiffs conducted tests to show that the wire did not break off, but these were ex parte. Plaintiffs did not show that conditions were the same as at the Washington, D.C. work site, and the trial judge properly gave the tests little weight.

The court also found that defendant's rigid element (steel cable) was not axially centered within the auger shaft, as called for by '422 claim, but was welded to the side of the cylinder portion of the driving bit.

into the hole. Ultimately it becomes a reinforcing rod set in the cement.

With all respect, this summary treatment by the trial judge did not face up to the problem of this case. The '422 patent, regardless of its validity, was in the public domain, and it was incumbent on Turzillo to show that '216 marked a non-obvious advance over all prior art, including '422. The patentability of '216 is independent of the patentability of '422. That is, '216 may represent a non-obvious and patentable advance even though '422 was anticipated. Contrariwise '216 may be a modification that is obvious even though '422 was a valid patent, and if so the '216 patent is invalid, for Turzillo cannot receive two patents for what is in reality a single advance. The claim of patentable advance ("improvement") over '422 was particularly suspect here, because '216 rests on a different premise from '422. What '422 presented as an advance was the use of a reinforcing rod and drill bit as a unitary member placed in the auger shaft during drilling. What '216 presents is a reinforcing rod physically divorced from the drill bit, and used as a means of disengaging the closure after drilling.

We shall discuss presently whether '216 marked a non-obvious advance. We first pause to note that to some extent defendant also attacked the validity of the '216 patent in terms of lack of disclosure to the patent office. By this time, the examiner had become aware of Phares. But now, argues defendant, Turzillo failed to disclose that in the early 1950's in connection with a grout pipe situated alongside the drilling hole, he had used a rigid reinforcing rod to forcibly release a closure member from the bottom end of the passageway of the grout pipe (a closure needed to prevent earth from coming up and filling the passageway). Defendant contends that this "public use" resolved

the problem of post-drilling release of the closure member and should have been disclosed to the examiner. Plaintiffs respond that there was no duty to disclose this because the use of a rod to knock out the plug of the grout tube is not in the same domain as dropping the rod down the auger shaft to dislodge the drill bit. We need not dwell on the significance of this purported non-disclosure, because we find the '216 patent invalid on the ground of obviousness.

The concept of using a rod to knock out the closure of the grout tube was in the public domain, as plaintiffs concede, and there is nothing of patentable dimension in the change from one grout tube (alongside the drilling hole) to another (the hollow shaft of the auger which had just been devoted to drilling),[12] or in the change from one closure of the grout tube (the plug) to another (the bit). As for leaving the rod in the tube as a reinforcement, that is obvious from the '422 patent, where the rod that had just been in contact with the bit was left in as reinforcement after contact with the bit had ended. And certainly everything in the '422 patent is fully disclosed to the public, for purposes of considering whether a later disclosure (in '216) represents a non-obvious advance, regardless of whether the '422 patent itself is valid. While a combination of previously known elements may sometimes be non-obvious, that is plainly not the case before us.

In some cases a matter like this is best remanded to the District Court, so that it can exercise its judgment on the facts in the light of its exposure over days of trial, but in the present case the foregoing conclusion is so clear that we think that an initial appellate disposition is in the

---

12. Plaintiffs concede that the prior art, particularly the second embodiment of the Patterson patent, discloses insertion of the grout through a hollow auger shaft (rather than a separate grout tube).

interest of sound administration of justice, *see* 28 U.S.C. § 2108.

The judgment holding patent 3,363,422 valid is vacated, and the Judgment holding it not infringed by defendant is affirmed. The Judgment holding patent 3,264,216 valid is reversed.

So ordered.

OPINION OF COURT OF APPEALS UPON REHEARING

532 F.2d 1402

UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

No. 75-1079 and No. 75-1080

LEE A. TURZILLO, *et al.*,
Appellees,

v.

P. & Z. MERGENTIME, *Appellant.*

(Filed June 2, 1976)

Before: McGOWAN and LEVENTHAL, *Circuit Judges;* BRYAN*, *U. S. District Judge* for the Eastern District of Virginia.

OPINION ON REHEARING

LEVENTHAL, *Circuit Judge*:

Plaintiffs call to our attention that the '422 patent was not prior art as to the '216 patent because the applications for these patents were in a state of co-pendency for a period of 8 days (from January 8, 1968, until January 16, 1968). The law is settled that "copending applications on which patents are granted to the same inventor must pass two tests of validity. They must constitute invention over the prior art, and they must be 'different' from each other

---

*Sitting by designation pursuant to Title 28 U.S. Code Section 292(d).

in order to avoid double patenting." *Weatherhead Company v. Drillmaster Supply Co.*, 227 F.2d 98, 101 (7th Cir. 1955).

On the second of these inquiries, "[c]o-pending applications are not prior art as to each other; but this means only that when the applications are made by the same inventor and the doctrine of double patenting applies, the later patent need not show an inventive advance over what was disclosed but not claimed in the earlier patent and when determining whether double-patenting exists, only the claims are compared and the claim of the patent must show an invention beyond the claims of the first." 1 Deller's Walker on Patents § 62, at 306 (2d ed. 1964). On April 21, 1976, after the judgment of this court issued, petitioner Turzillo moved to avoid double patenting difficulties by filing a terminal disclaimer for the remaining life of the '216 patent after January 16, 1985, the expiration date of the '422 patent.

Double patenting was not at issue in this case. The District Judge characterized the '216 patent as "an improvement" over the '422 patent. Our opinion makes clear that the two patents rest on different premises. What our opinion deals with is the initial inquiry as to whether the '216 patent marked a nonobvious advance over the pertinent prior art. For this purpose, we believe there is some latitude for looking at the claims, as opposed to the unclaimed disclosures, of the '422 patent.

However, to avoid any misunderstanding as to the relationship between the two patents, we have given reconsideration to this case without recourse to either the disclosures or claims of the '422 patent. We relied on claim 1 of the '422 patent as to the use of a rigid rod as a reinforcement to be anchoringly embedded in a column of cementitious material.[1] This reliance was unnecessary. The location of reinforcing members in a concrete pile is a feature of the conventional "percussion method," as illustrated by the Newman patent—a teaching that is old in the art. With that modification, our original opinion demonstrates the lack of requisite invention in the '216 patent.[2]

Plaintiffs put it that a holding of obviousness by this court can only be based upon improper hindsight reconstruction of the prior art. All we can say is that we tried to be aware of the problem and to avoid the vice. "[T]he mere existence of differences between the prior art and an invention does not establish the invention's nonobviousness. The gap between the prior art and [plaintiffs'] system is simply not so great as to render the system nonobvious to one reasonably skilled in the art." *Dann v. Johnston*, ... U.S. ....., ..., 96 S.Ct. 1393, 1399, 47 L.Ed.2d 692, 700, 44 U.S.L.W. 4463, 4466 (1976). Ultimately, as was reinforced by the Supreme Court's most recent patent opinion, *Sakraida v. Ag Pro, Inc.*, ... U.S. ....., ..., 96 S.Ct. 1532, 1536-37, 47 L.Ed.2d 784, 790-91, 44 U.S.L.W. 4477, 4480 (1976), a court must exercise its judgment on this question of law, and is not controlled by commercial success or acceptance.

---

1. Plaintiffs' petition points out that we misstate the teaching of the '422 patent in suggesting that "the rod that had just been in contact with the bit was left in as reinforcement after contact with the bit had ended." (at ..... of ..... U.S.App.D.C., at 1401-1402 of 532 F.2d). This was an inadvertence. We intended "drill" when we said "bit."

2. Plaintiffs' petition states that the claims of the '216 patent recite many limitations not considered by this court. These were not briefed or argued as demonstrating nonobvious advances.

JUDGMENT IN COURT OF APPEALS

(Filed April 8, 1976)

UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

No. 75-1079

LEE A. TURZILLO, *et al.*,
Appellees,

v.

P. & Z. MERGENTIME, *Appellant.*

No. 75-1080

LEE A. TURZILLO, *et al.*, *Appellants,*

v.

P. & Z. MERGENTIME,
Appellee.

APPEALS FROM THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

Before: McGOWAN and LEVENTHAL, Circuit Judges and ALBERT V. BRYAN, JR.,* United States District Judge for the Eastern District of Virginia.

JUDGMENT

These causes came on to be heard on the record on appeal from the United States District Court for the District of Columbia and were argued by counsel. On consideration of the foregoing and in accordance with the opinion of this Court filed herein this date, it is

*Sitting by designation pursuant to 28 U.S.C. § 292(d).

ORDERED AND ADJUDGED by this Court that the judgment holding patent 3,363,422 valid is vacated, and the judgment holding it not infringed by defendant is affirmed. The judgment holding patent 3,464,216 valid is reversed.

Per Curiam

For the Court

/s/ GEORGE A. FISHER
Clerk

Date: April 8, 1976

Opinion for the Court filed by Circuit Judge Leventhal.

ORDER OF THE COURT OF APPEALS UPON REHEARING

(Filed June 2, 1976)

UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

No. 75-1079 and No. 75-1080

LEE A. TURZILLO, *et al.*,
Appellees,

v.

P. & Z. MERGENTIME, *Appellant.*

Before: McGOWAN and LEVENTHAL, *Circuit Judges;* BRYAN*, *U. S. District Judge* for the Eastern District of Virginia.

ORDER

On consideration of the petition for rehearing filed by plaintiffs Turzillo, it is

ORDERED by the Court that the aforesaid petition for rehearing is granted to the extent indicated in the supplemental opinion issued this date, and is otherwise denied.

Opinion filed by Circuit Judge LEVENTHAL on Petition for Rehearing.

---

*Sitting by designation pursuant to Title 28 U.S. Code §292(d).

OPINION OF THE DISTRICT COURT

(Filed Oct. 29, 1974)

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

Civil Action No. 792-72

LEE A. TURZILLO and
LEE TURZILLO CONTRACTING COMPANY,
Plaintiffs,

vs.

P & Z MERGENTIME,
Defendant.

MEMORANDUM OPINION

This is an action for patent infringement filed by Lee A. Turzillo, an individual residing at Bath, Ohio, and the Lee Turzillo Contracting Company, an Ohio corporation with its principal place of business in Richfield, Ohio. Defendant P & Z Mergentime is a joint venture company composed of P & Z Company, Inc., a California corporation, and Mergentime Corporation, a Delaware corporation, having a regular and established place of business in Washington, D.C. The case has been tried and submitted to the court.

On January 16, 1968, United States Patent No. 3,363,422 (the '422 Patent) was issued to Lee A. Turzillo for a method and apparatus for anchoring a tie-down bar in an earth situs. On September 2, 1969, United States Patent No. 3,464,216 (the '216 Patent) was issued to Turzillo for

a method and means for forming cast-in-place reinforced concrete piles. Lee A. Turzillo entered into a license agreement with the Lee Turzillo Construction Company covering these two patents on November 1, 1969. The subject matter of this suit concerns the defendant's alleged infringement of claim 1 of the '422 patent and claims 1-6 of the '216 patent arising from the defendant's installation of tie backs at WMATA's operations center at 5th and G Streets, N. W., at the National Gallery of Art (NGA), and at the Union Station Branch of the new District of Columbia subway system.

During the installation of the tie backs defendant ultimately relied on two methods to complete its work—the continuous auger method which was used principally at the operations center and at NGA, and the sectional auger method which was employed at Union Station. Since the plaintiffs' complaint relating to the '422 patent goes only to the continuous auger method and that relating to the '216 patent to the sectional auger method, the court will consider the question of the validity and infringement of each patent separately.

The '422 Patent

Essentially, the defendant argues first that the '422 patent is invalid because Turzillo failed to notify the patent office of pertinent prior art relating to his invention or because there is no patentable distinction between the claimed invention in '422 and the prior art.[1] Alterna-

1. Defendant has made several arguments charging that during the prosecution of the two applications for the patents at issue here, plaintiffs made several concessions which restrict the scope of the claimed inventions. On review of the file histories, the testimony during the trial and the papers submitted by the parties on this point, the court rejects defendant's contention that plaintiffs are estopped from relying on the full scope of the claims at issue as now written.

tively, defendant argues that its continuous auger method does not infringe Turzillo's patent.

The '422 patent relates to a method and apparatus for anchoring a tie-down bar in an earth situs using a hollow-shafted auger or drill. The central passage of the drill is closed at its inner end by a driving bit, which is a unit separate from the drill. The driving bit consists of a cutting member, sometimes a flat, pointed piece of steel which assists in forming the hole, a base plate or closure plate which covers the lower end of the drill, and a cylinder portion which is attached to the back side of the plate. The cylinder portion may be square or round and may or may not be threaded. Its function is to accept a steel tendon or reinforcing bar. The bar, whose length will be the entire length of the hole to be formed, is welded or threaded to the base plate at its center and is inserted into the central passageway of the auger before drilling. After the bit with its reinforcement bar is loaded onto the drill, the bit is releasably connected to the shaft of the drill so that there is no relative motion between the drill shaft and the bit. The bit and the drill thus act as a unit in forming the hole. In the preferred form of plaintiff's invention, the driving bit is releasably retained at the inner end by a pin which is inserted through the reinforcing bar at the top of the drill and which spans the outer diameter of the drill so that it acts, simultaneously, as a drive to rotate the bit and a means to lock the driving bit to the inner end of the drill. In the field, however, Turzillo used other, equivalent means, such as wood shims, cloth, or a ball-spring detent device at the lower end of the drill to wedge the driving bit into the inner diameter of the shaft. Also commonly used by plaintiff to accomplish an equivalent releasable connection was ordinary bailing wire wrapped about the tip of the driving bit and an outer portion of the drill shaft. After drilling, the bit

and tie-down bar are released from the drill. The bit then acts as an anchor for the bar while the drill is progressively removed from the hole and fluid cement is fed through the central passageway of the drill to form a concrete column.

The result of this method is a column of concrete surrounding a steel tendon which has been accurately centered within the column. Such tie backs are not the equivalent of the familiar concrete columns into which reinforcing bars have been inserted. *See* the Patent to Newman, *infra*. By using steel of varying tensile strengths and by accurately centering the tendons, tie backs or tie-downs may be constructed which are used, among other uses, to hold back earth walls in excavation sites thus relieving the site of a great deal of clutter and allowing actual construction to proceed much faster, to hold buildings firmly down, or to keep buildings from sinking. Such tension piles form the basis for foundations in many of today's super skyscrapers.

Prior Art

The defendant cites several references which it argues renders the claimed invention in '422 obvious to one of ordinary skill in the art. The most pertinent examples of such prior art discussed during the trial are:

(1) U.S. Patent No. 1,805,265 to Taussig for a screw conveyor pile, published May 12, 1931, assigned to Raymond Concrete Pile Company of New York;

(2) U.S. Patent No. 2,146,645 to Newman for foundation construction, published February 7, 1939;

(3) U.S. Patent No. 2,729,067 to Patterson for a method for forming piles, published January 3, 1956, assigned to Intrusion Prepakt, Inc.;

(4) German printed application No. 1,104,905 to Bauer for a traction anchor for anchoring structures in the ground, published April 13, 1961;

(5) U.S. Patent No. 3,200,599 to Phares for apparatus for forming piles, published August 17, 1965, assigned to Raymond International, Inc.;

(6) U.S. Patent No. 3,228,200 to Dufresne for a method of forming concrete piles, published January 11, 1966.

Defendant urges vigorously that plaintiffs' failure to cite the Phares Patent to the Patent Office during prosecution of the application for the '422 patent is enough support standing alone for this court to declare the '422 patent invalid. Defendant cites *Beckman Instruments, Inc. v. Chemtronics, Inc.*, 428 F.2d 555 (5th Cir. 1970); *Monsanto Co. v. Rohn & Haas, Inc.*, 456 F.2d 592 (3d Cir. 1972); *Carter-Wallace v. Davis-Edwards Corp.*, 443 F.2d 867 (2d Cir. 1971); and *Norton v. Curtiss*, 433 F.2d 779 (CCPA 1970) in support of its position. None of these cases stand for the proposition that the mere failure to cite a reference, without more, is grounds for invalidating a patent. To be sure, an applicant has a high duty to inform the Patent Office of all pertinent facts affecting the prosecution of his application. But the examiner in his initial search, searched the subclass in which Phares was classified and cited the Dufresne and Newman references from that subclass as prior art.[2] At this point, as is discussed below, the examiner had all of the most pertinent art before him. Assuming Turzillo actually knew of Phares at this time, he could as well have been of the opinion that

---

2. The examiner did cite Phares during the prosecution of the related '216 application. However, Phares was cited there merely in passing as an exemplar of pertinent art and never expressly relied upon during the prosecution by the examiner.

Phares was not pertinent to his invention. Defendant has made no showing, and has not attempted to show, the wilful nature of plaintiffs' failure or a recognition or admission on the plaintiffs' part that Phares should have been brought to the examiner's attention. Moreover, Phares is not a 102 reference,[3] as was the case in Beckman, and does not completely negate the '422 claims. On the basis of the record before the court, the court rejects defendant's contention. However, to the extent that the presumption of validity is affected by the possibility that the examiner did not have Phares before him, the court will more closely examine '422 against the prior art including Phares.

Taussig disclosed in 1931 a method of reinforcing a concrete pile formed by driving a hollow shafted screw conveyor into the earth through a concrete hopper, using the helical outer flights of the screw in a known manner to convey the concrete to the bottom of the hole and then inserting a reinforcing bar or bars through the hollow shaft after the conveyor has been driven to its full depth but before the withdrawing operation is begun. The lower end of the screw conveyor is covered by a separate driving bit which, in the preferred embodiment, has a threaded pipe attached to the back of its base plate to accept the reinforcing bar. Presumably, the hollow central passageway is only wide enough to accept the reinforcing bar in order to insure proper alignment between the bar and the female portion of the driving bit when the bar is inserted.

Patent No. 2,146,645 to Newman disclosed in 1939 a method for constructing concrete piles by driving a pipe into the ground to a predetermined depth and introducing concrete into the hole after it has been formed through the pipe itself while the pipe is being withdrawn.

---

3. 35 U.S.C. 102.

Patent No. 2,729,067 to Patterson in 1956 showed the use of a drill to define a cavity in the earth and, in one embodiment, the use of a hollow shafted auger through which cement grout is passed is proposed. In this embodiment, grout pressure is used to drive the driving bit from the auger shaft.

Thus, as early as 1956, those in the trade had all the elements available to them to form tension piles in the manner of Turzillo '422. Yet, for one reason or another, tension piles could not be formed efficiently using these known methods. The testimony of Mr. Turzillo and Mr. Liver, an officer of the Turzillo Company, showed that in the mid-sixties, Intrusion Prepakt was still using the Patterson method of first forming the pile and then manually inserting the steel tendon into the formed pile. However, this method could not produce the desired results and in at least one tie back job done for the Gulf Power Company in Louisiana Intrusion Prepakt was replaced by Turzillo's company. Intrusion Prepakt now holds licenses under both the '422 and the '216 patents. Indeed, defendant's first attempt to construct tie backs under their contracts in Washington was to use the even older percussion method of driving pipes into the ground and manually inserting the reinforcing bar after drilling. This method, however, resulted in too many failures. Defendants then switched to the methods now accused of infringement and thereafter had no test failures after the pile was formed.

The application to Bauer is not directly on point. It shows a method for inserting a traction anchor into an earth situs by driving a pipe with a loosely-fitting ramming tip at its inner end. The pipe encompasses with minor clearance a steel bar—the traction anchor—which is threaded into the ramming tip after drilling. After

drilling fluid cement is inserted through the pipe and through jet spouts in the ramming tip to form a thin wall of concrete around the steel bar to bind the bar to the earth.

Dufresne is also not directly on point. It shows a method for constructing a simple concrete pile by inserting what is essentially a solid pipe with a driving bit fixed to its lower end into the hollow shaft of a drill. After the hole is drilled the solid pipe-drill bit combination is removed from the central passageway of the drill. A concrete hopper is then placed at the top of the hollow shaft so that the shaft is used as a conduit for the concrete as the drill is progressively removed from the hole.

Finally, the Phares device as disclosed in Figures 22-24 of the specification is an attempt to combine all the known elements to form a tension pile with steel tendons centrally located within the pile. However, the Phares device is significantly more complex than that of Turzillo, as a comparison of the disclosure of Turzillo with that of Phares, Figures 22-24 and accompanying text, will illustrate.

The examiner had before him all the art cited above with the exception of Phares and in the face of these references issued claim one of '422. The court sees no reason to overturn his decision. The installation of tension pile or tie backs is a relatively new field. If a new combination and arrangement of known elements produces a new and beneficial result, never attained before, it is evidence of invention. *Maschinenfabrik Reiter A.G. v. Greenwood Mills,* 340 F. Supp. 1103 (D.S.C. 1971). None of the cited references completely anticipates plaintiffs' claimed invention. In determining obviousness under 35 U.S.C. § 103 hindsight reconstruction of the prior art after the invention's commercial acceptance is not the applicable

standard. *Id.; Simplicity Mfg. Co. v. Quick Mfg. Co.,* 355 F.2d 1012 (6th Cir. 1966). The development of the prior art in this case and the responses of those laboring in the field to make the same invention, as illustrated by the patent to Phares, a recognized leader in the field, indicate that Turzillo's method and device eliminated a technological block in the practical implementation of the prior art. This itself is strongly supportive of the lack of obviousness.

With respect to the Phares patent and the validity of claim 1 in view of its disclosure, the court believes claim 1 of '422 to be patentably distinct from Phares. Phares does not show a driving bit which *closes* the inner end of the hollow shaft. The Phares bit is held onto the inner end of the auger shaft but the closure plate, element No. 145 actually *closes* the inner end, not the driving bit. In addition, Phares does not show releasing the driving bit and the steel tendon attached thereto in substantially centered position within the hole. Defendant failed to show how these distinctions are but obvious improvements over Phares. Its one technical witness had no experience with tie backs before joining defendant's company in Washington. In addition, the testimony of one of plaintiffs' witnesses, Mr. Marshall, indicates that the experimental prototype for the Figure 22 embodiment of Phares was unworkable. It is also unrefuted in the record that the Phares device has never been successfully used commercially in the United States. It appears to the court that Phares is no better than the art considered and rejected by the Patent Office and, therefore, would not have changed the Examiner's decision with respect to claim 1 of '422.

Since a patent is presumed to be valid, 35 U.S.C. § 282, and since defendant failed in its burden of establishing invalidity, the court holds that claim 1 of '422 is valid.

Infringement

The method accused of infringing '422 essentially consisted of the following apparatus and steps: using a hollow shafted continuous auger with a driving bit similar to Turzillo's closing its inner end; attached to the driving bit, is a relatively flexible steel cable, which is welded to the pipe on the back side of the base plate of the driving bit; before drilling the cable and driving bit is inserted into the auger.

Unlike Turzillo the court finds on the basis of the evidence that the driving bit of defendant is not releasably attached to the auger shaft and the steel tendon is not axially centered within the shaft as called for by the claim.

With respect to the requirement of a releasable connection, the defendant's driving bit was equipped with two protruding ears which were designed to engage with corresponding lugs or slots on the body of the drill itself. The outer diameter cylinder portion of the driving bit was approximately a quarter-inch smaller than the inner diameter of the auger shaft. Thus, the physical characteristics of defendant's apparatus and the testimony of Oliver Edwin Merwin, Jr. indicates that defendant was satisfied with a loosely-fitting bit to close the inner end of the shaft which they hoped would fall off after drilling was complete. *See, e.g.* Merwin Deposition, at 43-44, 50, 59. During drilling the bit was to be held onto the auger shaft by downcrowding the bit against the shaft.

Testimony showed, however, that defendant sometimes used bailing wire to keep the bit and shaft together. Plaintiffs urge that this is the releasable connection called for by the claim and cite their own similar use of wire to hold the bit and shaft together during drilling. The court finds that defendant did not use wire to form a releasable

connection. Rather, the wire was used to hold the two elements together before drilling and was designed to break off immediately after drilling commenced. Merwin Deposition, at 48-49. There are enough differences between plaintiffs' ex parte tests designed to show that the wire did not break off and actual conditions and apparatus at the work site in Washington that the court must give the results of these tests little weight. The court, therefore, concludes that the wire served only the purpose intended, as asserted by the defendant, and that the ear-lug connection was not designed and, when working properly, did not function as a releasable connection. Furthermore, the fact that defendant's auger shaft could not be disconnected from its drive motion and, even if it could, one could not make contact with the end of the steel cable within the shaft further indicates that defendant's process depended on the bit being maintained on the shaft by downcrowding and falling off each time the drill was withdrawn.

Defendant's steel cable[4] was also not axially centered within the auger shaft as called for by the claim. Defendant welded its steel cable to the side of the cylinder portion of the driving bit rather than to the center of the closure plate. This resulted in a pile in which the tendon was clearly not centered either within the auger shaft or in the final pile. Mervin Deposition, at 134.

For the foregoing reasons, the court finds that the plaintiffs have failed to establish by a preponderance of the evidence that the defendant infringed the plaintiffs' '422 patent.

---

4. In view of the interchangeability of steel cable and steel bars well recognized in the art the court believes that defendant's cable comes within the definition of an elongated rigid element called for by the claim.

'216 Patent

Validity

The '216 patent is an improvement over the '422 patent. A hollow-shafted auger with a releasably attached bit is screwed into an earth situs to define a hole. Thereafter a steel tendon—an elongated rigid element—is released down the auger shaft to forcibly disengage the bit from the inner end of the shaft. The auger is then withdrawn and fluid cement is introduced into the hole. The result is a tension pile, easily and efficiently drilled, with a steel tendon maintained substantially within the center of the pile.

With respect to the validity of '216 the court gives full effect to the statutory presumption of validity. The same examiner who examined '422 had all the pertinent art discussed above, including Phares, before him during prosecution. His decision should not be lightly ignored. In view of the discussion above concerning the prior art, the court concludes that '216 was validly issued.

Defendant also vigorously urges here that plaintiffs defrauded the Patent Office by failing to inform it of the fact that while Turzillo was employing the preferred embodiment of the Patterson patent (see Figures 2 and 3 of Patterson) he used a steel bar to forcibly release a plug at the end of a grout pipe located adjacent to the hole. This prior public use is so remote from Turzillo's present invention that his failure to inform the Patent Office is not material to the validity of '216. Certainly it is not fraud within the meaning of the case law. Even if it was cited the court believes that fact would have had no effect on the examiner because the Patterson patent itself discloses the concept of using some external means to release the plug. Defendant's proof of misrepresentation or fraud

must be clear and convincing, *Tractor Supply Co. v. International Harvester Co.*, 155 U.S.P.Q. 420 (N.D. Ill. 1967); *Beckman Instruments, Inc. v. Chemtronics, Inc., supra.* The court thus rejects its contention with respect to the grout pipe.

Infringement

Defendant's sectional auger method has been accused of infringing the '216 patent. By this method five-foot hollow shafted auger sections were connected together as each section was drilled into the earth. As in the continuous method, a closure member was mounted on the lower end of the first section. Defendant had available to it various types of closure members: a miniaturized version of the type used with its continuous auger method; a closure which had a conical-shaped nose commonly used in percussion drilling; a hemisphere type closure member; a flat plate having carbide teeth on it to cut through obstructions; and a Morse point which is the same as the conical bit, but is machined instead of cast.

The conical and hemisphere bits have no closure plates to which the forward portion of the bit is attached; rather, the base of the conical and hemisphere sections is large enough to close the inner end of the auger shaft. Attached to the base of these bits is the cylindrical pipe which accepts a reinforcing bar or tendon. In the Morse point, the inner end of the cylindrical pipe is tapered.

In defendant's sectional auger method, the steel tendons were introduced into the auger after the drilling step was completed.[5] After the hole was formed, defendant

---

5. In practicing this method, defendant leased two Acker drills from Acker Drill Co., Inc. Acker advertised its Acker drill in June, 1972 as fairly new on the market, and as being the first U.S. drill rigs for tie-backs which permit inserting the tie-backs through the hollow stem of the auger before removing the stem. Plaintiffs' Exhibit 41.

disconnected the drills from its driving mechanism so that the top end of the hollow shaft could receive reinforcing bars. The bars were then inserted through this end and embedded in the dirt at the other end which was now theoretically opened. *See* discussion below. Defendant used three- and six-strand cable as reinforcing elements.

The testimony failed to establish that the miniaturized continuous method closure member and the hemisphere member were used in the sectional method or that the carbide tooth bit, although used occasionally at the outset, were ever operatively or productively employed by defendant in practicing the method. Therefore, plaintiffs' claims of infringement must be examined with respect to defendant's use of the conical bits—the conventional percussion type bit and the Morse point.

First, defendant's (unlike the bit used in the continuous process) conical bits employed in defendant's sectional method included means for centering the steel tendons within the auger shaft. The leading edge of the reinforcing cables were bound together by a tapered mechanism which mated with the cylindrical pipe portion of the bit (referred to above). Thus, the evidence shows, and the Morse point particularly demonstrates defendant's intention in the sectional method to center the reinforcing element within the auger shaft and, consequently, within the constructed pile.

Second, the interaction between defendant's conical bit and the modified Acker drill head (explained below) resulted in the releasable connection called for by the claims of '216. As noted above, the base of the conical portion of the closure member was large enough to completely cover the open, inner end of the auger shaft. The testimony shows that at first the bit was seated at the end of the drill body and maintained thereon during drilling only by downcrowding. However, this procedure was not successful. The defendant then had the drill head machined so that the diameter of the base of the cone would fit entirely within the machined portion of the drill head. Moreover, the tolerance between the perimeter of the base and the machined portion of the head was only 1/32 of an inch. Furthermore, the testimony of Kermit Rodgers, superintendent of the Union Station job, indicates that mud or clay was sometimes smeared around the perimeter of the conical base in order to help keep the closure member attached to the drill head. Given the close tolerance between the bit and the modified drill head, a factor not present in defendant's continuous method, especially when mud was used as just described, when drilling commenced, a bond must have formed between the bit and the drill shaft that caused the bit to rotate with the drill and formed the releasable connection called for by the claims. An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure. Although defendant did not employ the structure disclosed in the patent specification for '216 to form the releasable connection the structure it did employ is the equivalent of the disclosed structure and was intended to accomplish the same purpose. *See* 35 U.S.C. § 112; *Samuel B. Smith v. E. H. Snow, et al.*, 294 U.S. 1 (1934). The conclusion that the bit was releasably retained within the auger shaft to rotate with the drill is buttressed even further by the evidence which showed that the closure member was required to be forcibly released from the bottom of the auger when the reinforcing element was introduced after drilling. If simply jamming the tendon member against the closure member did not release the member, it was moved back and forth by hand until the member released. Even this did not work at times and

defendant was required to use an 80 or 90 pound jackhammer in order to release a stuck closure member.

It is not disputed that the other steps called for by '216—that is, progressively removing the auger shaft while fluid cement is introduced into the hole—including the step of rotating the shaft with withdrawal—were practiced in defendant's sectional auger method.

For the foregoing reasons, the court finds that the plaintiffs have established by a preponderance of the evidence that claims 1, 2, 3, 4, 5 and 6 of the '216 patent were infringed by defendant's sectional method.

The parties are ordered to submit appropriate judgment forms in accordance with this memorandum no later than November 8, 1974.

/s/ THOMAS A. FLANNERY
United States District Judge

JUDGMENT IN THE DISTRICT COURT

(Filed 11-25-74)

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

Civil Action No. 792-72

LEE A. TURZILLO and
LEE TURZILLO CONTRACTING COMPANY,
Plaintiffs,

vs.

P & Z MERGENTIME,
Defendant.

JUDGMENT

This cause having been considered by this court upon the pleadings and evidence presented on trial before this court, and the issues having been duly tried and a decision having been duly rendered by this court in a Memorandum Opinion filed in this court on October 29, 1974, it is ORDERED, ADJUDGED and DECREED:

1. That United States Patent No. 3,363,422, issued January 16, 1968, is valid as to claim 1; and that United States Patent No. 3,464,216, issued September 2, 1969, is valid as to claims 1 through 6.

2. That the plaintiff, Lee A. Turzillo, is the patentee and lawful owner of the entire right, title and interest in and to each of said United States Patents 3,363,422 and 3,464,216 and the inventions thereof; and that the plaintiff, Lee Turzillo Contracting Company, entered into a

license agreement with Lee A. Turzillo covering said patents on November 1, 1969.

3. That defendant, P & Z Mergentime, infringed claims 1, 2, 3, 4, 5 and 6 of United States Patent No. 3,464,216 by using its sectional auger method.

4. The said defendant, P & Z Mergentime, its officers, agents, attorneys, employees, associates and privies, are hereby enjoined and restrained from directly or indirectly infringing any of claims 1 through 6 of United States Patent No. 3,464,216 during its term, and from offering or advertising so to do, and from aiding or abetting or in any way contributing to the infringement of any of said claims.

5. That the plaintiffs recover from the defendant, P & Z Mergentime, for defendant's infringement of claims 1 through 6 of United States Patent No. 3,464,216, damages according to law; and this case is hereby referred to Mr. John W. Follin, Auditor-Master of the Superior Court of the District of Columbia, who will act as a special master to take and report an account of the damages sustained by plaintiffs by reason of said infringement, and the defendant, P & Z Mergentime, its officers, agents, clerks and employees are directed to attend before such special master from time to time as he shall direct, and to produce before him all such books, papers, vouchers, documents and devices and to submit to such oral examination as he may direct.

6. The costs of the reference shall be borne by the defendant.

7. That the plaintiffs shall also recover from the defendant, P & Z Mergentime, its costs and disbursements in this suit to be taxed by the Clerk.

Dated, November 25, 1974

/s/ THOMAS A. FLANNERY
United States District Judge

cc: Auditor/Master
All Counsel